AEE®

# USER MANUAL

## HD77

# MagiCam

Magical application

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# Foreword

Thanks for purchasing our high-definition digital video camera HD77. Featured by small size, integrated design and easy to operate, HD77 can be used to photograph and record the scene anytime anywhere by means of the high-definition and dynamic photography, so that you can share the video recording experiences with your family members and friends.

This operating manual contains detailed instructions on how to use and install this product and provides you with detailed information including notes for using, operating, and installing, as well as the technical specifications. Please read this manual carefully before using the product. It is also recommended that this manual is preserved safely for future use. We hope this product will meet your requirements and serve you for a long time.

# Product Guarantee

This product meets the recommended indices of authentication institutes like FCC & CE. It comes with a safety guarantee.

# Product Profile

As a high-end mini HD digital video camera designed to meet the market demand, this product can perform functions such as high-definition digital photography, voice storage, real-time display, time display, remote control, digital zoom, high-speed USB data transmission, and USB charging. Supplemented by the accessories, this product integrating multiple patented technologies can be used to photograph anything anytime anywhere.

Please don't throw the waste at random. Please recycle!

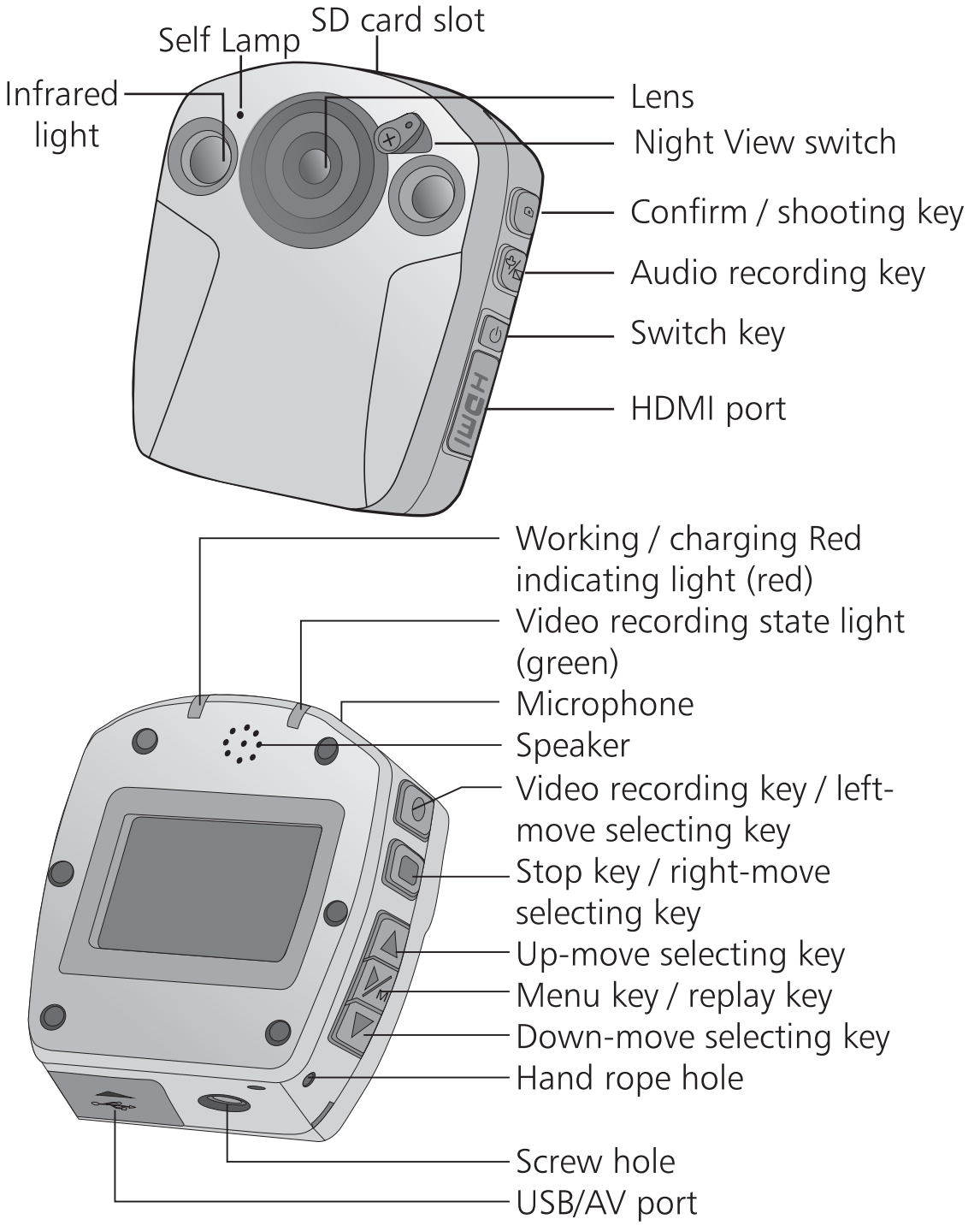
# HD77 Product Functions

- 170°super wide-angle lens, f / 2.5 diaphragm.
- 5 mega pixel HD camera, supporting 720P / 960P / 1080P high definite video recording.
- Photo-capturing function, supports up to 3200 x 2400 resolution photos.
- 4X digital zoom (only for 720P/30f and below mode ).
- Infrared night vision function.
- Circular video capture coverage function.
- Wireless remote control function.
- Independent audio recording function.
- Multiple optional accessories, applicable for use in more scenes.
- Better video recording effect, multiple video outing models (optional).
  1080P (1920 x 1080) 30 frames / s,
  960P (1280 x 960) 30 frames / s,
  720P (1280 x 720) 60 frames / s,
  720P (1280 x 480) 30 frames / s,
  WVGA (848 x 480) 60 frames / s.
- High speed dynamic video recording, instant response to light or dark environment.
- Automatic exposure and automatic white balance, makes the operating easier.
- supports maximum of 32G.
- HDMI interface, convenient for viewing files on high definition display or TV.
- High quality color reducing makes videos clearer and vivid.
- Wireless remote controller allows video recording, stopping and starting HD77 within 6m distance. unique code matching function prevents interference of other remote controller in the vicinity.

- Shock-proof function: The HD77 comes with basic anti-drop shock and beating resistance capacities.
- PC Camera function, convenient for video conferencing.
- RTC function, clock superimposition function (convenient for guaranteeing validation of collected evidence material).
- MOV format video recording, convenient for direct PC display, easy for being transmitted to video website.
- One-key function operation, easy and convenient for operating and makes the operation reliable.
- Automatic standby power-conservation function.
- Supports fast forward and rewind function, as well as next section skipping.
- Supports USB 2.0.
- Embedded microphone, high quality audio recording effect.
- 1/4 inch general interface, convenient for using extensions in accessories.
- Multiple shooting models: Single shooting, three continuous shooting, and automatic continuous shooting model.
- Automatic saving setting.
- Abnormal processing intelligent function: if the DV memory space is insufficient, the green light will glow for a long time and sound prompt will be on, and the current video file will be automatically saved. If the DV battery has insufficient power left, the red light will glow for about 30 seconds and the sound prompt will be on, the current video file will be automatically saved, and the machine will be turned off.

# HD77 Product Structure

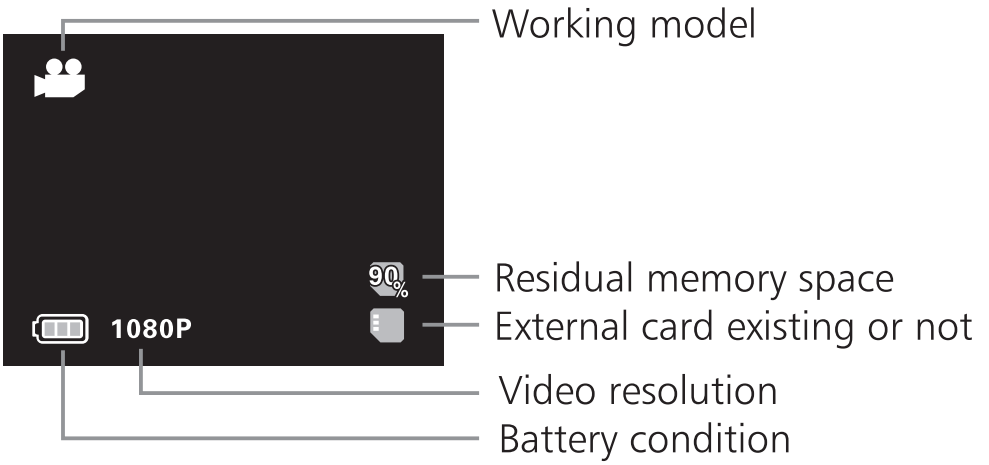
Under pre-view state, all keys of this machine are shown as follows:



# HD77 Product Operation

1. Press and hold the switch key for 3 seconds. HD77 will enter start-up state and the red indication light will be turned on. The host will emit a " beep " prompt sound and then, HD77 enters pre-view state.

TFT LCD screen shows the following information at this time:




**When in turn on status,long press power key for 3 seconds,HD77 will turn off.**

Working model: Video recording icon " " on top-left of the TFT LCD screen indicates that the machine is at video recording standby state.

Residual memory space: External card options can be viewed on the bottom right of the TFT LCD screen " " and the residual memory space information " 90% ". When the memory card residual space becomes 0%, it means that the memory card has no space at all.

Video resolution: The resolution model displayed on bottom left of the TFT LCD screen indicates that the system is on standby for video recording of this resolution.

Battery condition: " " "on bottom left of the TFT LCD screen indicates the residual power of the battery.

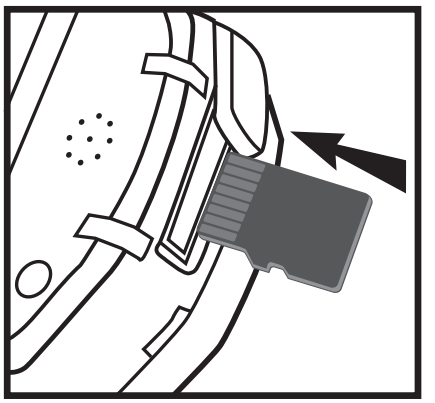
Notes:Before using the machine, please check whether the battery power is sufficient or not. If the residual battery capacity is low, please use the applicable power supply or use the USB data cable to charge the HD77. When it is charged, the "Working / charging red indication light" will glow slowly. After it is fully charged, the red light will glow for long and the TFT screen battery icon will display "".

Insert the SD card

* Make sure the recorder is turned off.
* Insert the SD card into the SD card slot as shown in the figure.

Remove the SD card

* Press the middle of the SD card and then pull it out straightly.



2. Video recording:

Under pre-view state, press " ⏺ " to start recording the video. The red indicating light will turn off, and the green light will glow slowly. Meanwhile, the TFT screen will display the video recording icon and start the timer; press " ⏹ " during the video recording to stop and save it as a" *.MOV " format file.

When recording video, the TFT screen will display a video recording icon, video recording resolution, battery condition, memory card residual capacity and video recording time.

Digital zoom: 720P*30f / WVGA model video recording, press " ▲ " and " ▼ " to realize the digital zoom (1080P / 960P / 720P*60f models have no digital zoom functions).

Notes:

a. During the video recording process, if the battery has insufficient power, the system will save the currently recorded file and flash " Low Battery " until the machine is shut down or it is shut down automatically.
b. During the video recording process, if the memory card is full, the system will save the currently recorded file and prompt "Out of memory", and resume to pre-view state.
c. The naming method for manual video recording files is by default: FILE0001.MOV, FILE0002.MOV….

3. Photo-capturing

Under start-up pre-view state, press "📷" , the system will shoot a picture, and the red indicator light will flash once. Meanwhile, the system will emit a "click" sound. The screen provides 1 second pause as preview.

4. Audio recording

Under pre-view state, press " 🎙 " , the system will start audio recording, and the red indicating light will glow slowly, and the TFT screen will show the audio recording icon and start the timer. When taking audio recording, press " ■ " to stop the audio recording and save the recorded content as a " *.WAV " format file. When taking audio recording, the TFT screen will show parameters like the audio recording icon, battery capacity, memory card residual space, and audio taking time, etc.

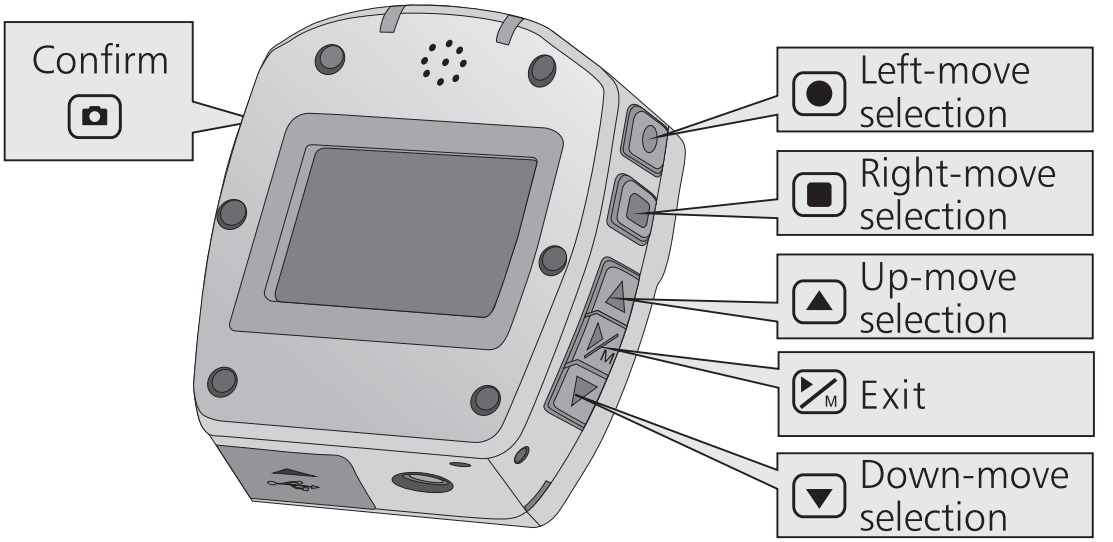
5. File replay

HD77 can also be used to view the audio file / video file and photo file taken by it. Gently press " M " key to enter the replay selection interface, and press " M " key to exit the replay selection interface to return to pre-view state. If the files to be replayed are of a large size, the time for entering pre-view interface will be a little longer.

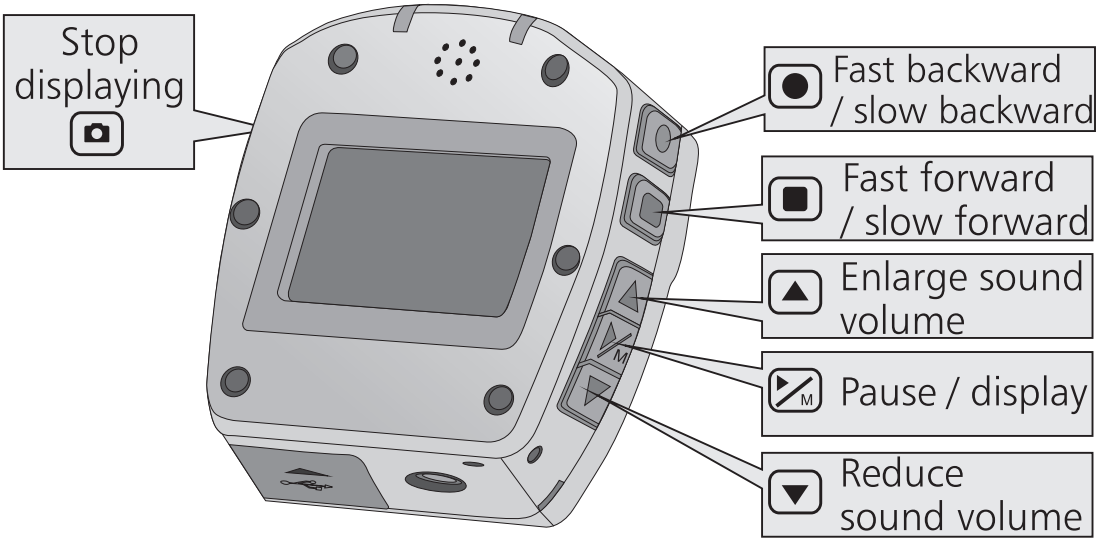
a. Replay for video / audio recording files:

Gently press " M " key to enter "replay selection" interface, press " ▼ " or " ▲ " key to select the video / audio recording file, and press " 📷 " to enter video / audio recording file replay interface. Press " 📷 " again to play the video / audio recording file that was last taken. If the video / audio recording file needs to be selected, press " ▼ " to enter thumbnail video / audio recording file pre-view interface of the video / audio recording file interface, and then select the required video/ audio recording file through "● " or "■ " . Press " 📷 " twice to play the selected file. When the display is stopped, press " M " key to get back to standby pre-view state.

In the thumbnail pre-view interface, the function keys to be pressed are as follows:




During the video / audio file displaying process, the function keys to be pressed are as follows:



When displaying video, select 1/4 x * 1/2 x * 2x * 4x speed (audio recording file display has no this function)

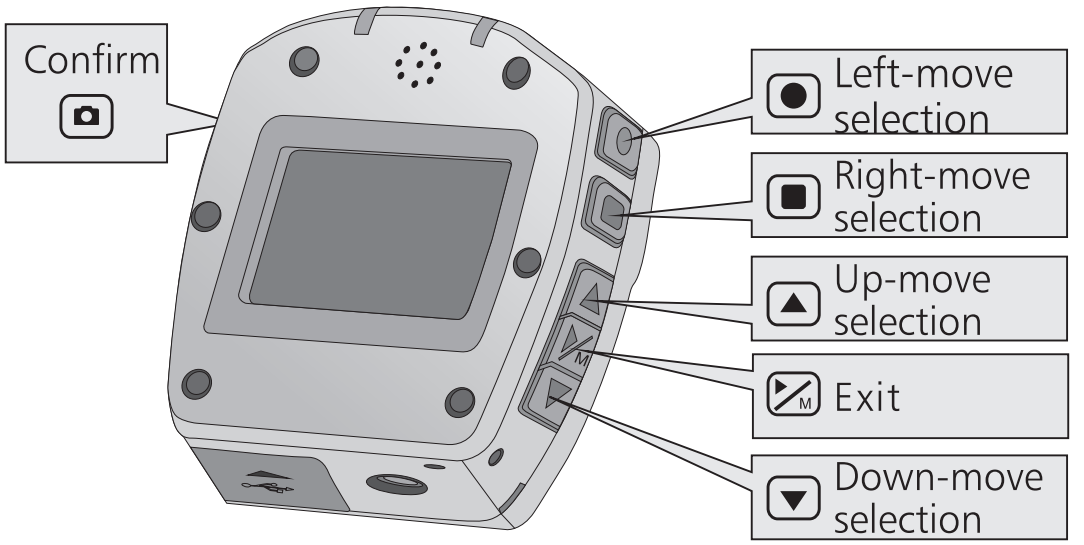
b.Protecting and deleting video recording / audio recording files:

Gently press "M" key to enter " replay selection " interface, press "▼ " or "▲" key to select the video / audio recording file, and press "📷" to enter video / audio recording file pre-play interface. Press "M" and hold for 3 seconds to enter video recording / audio recording file protection and deletion interface. In this interface, three options are available which are respectively: single deletion / delete all / protection:

- Single deletion: to delete single picture ( press "📷" twice and the "Yes" or "No" options for deletion will pop up. Select "Yes" to delete it ).
- Delete all: This option will delete all files that haven't been protected, including video recording or audio recording files.
- Protection: after selecting the protection function, the file can be locked for protection. The protected files will have a "🔒" icon on the top left hand side of the file. When you execute the protection operation for a protected file, it becomes unprotected. The protected file cannot be deleted unless through formatting.

Note: during the "deletion / protection" operation, by using the "confirm key", "left-move", "right-move" selection keys, the operation of deletion / protection can be fulfilled for each particular file when browsing files one by one.

During file deletion / protection interface operation process, the function keys that can be pressed are as follows:



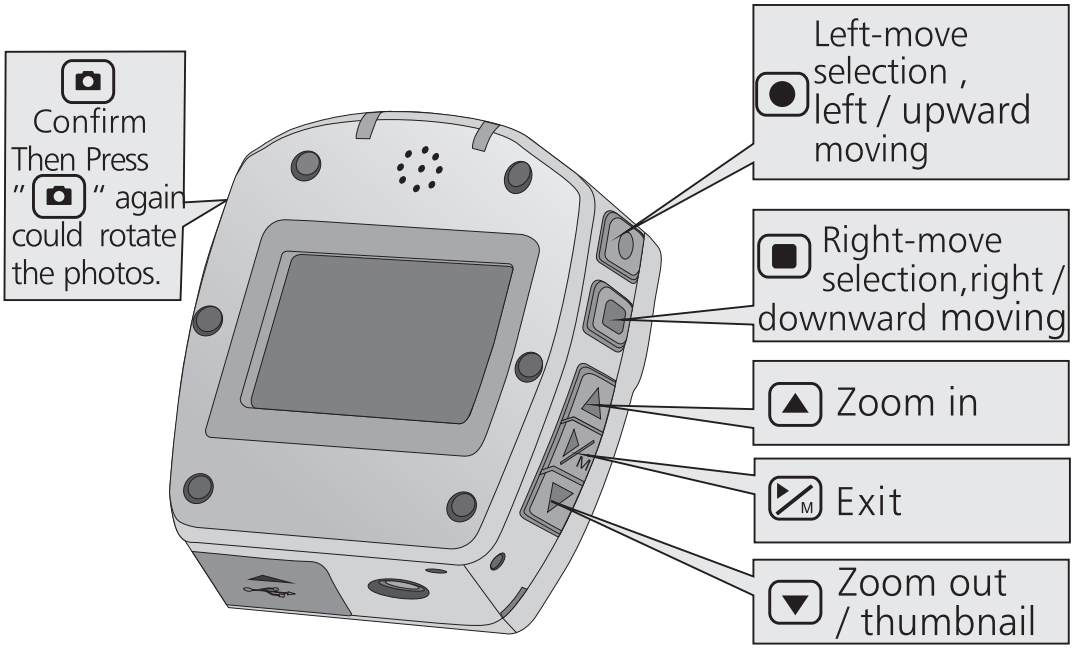

c. Browsing pictures files

Gently press " M " key to enter "replay selection" interface, press " ▼ " or " ▲ " key to select the photo file, and press " ● " to enter the file preview interface to browse pictures from the latest one. Then Press" ● "again could rotate the photos.

When viewing photos, the functions of all keys are as follows:

- " ▲ " : zoom in the picture.
- " ▼ " : zoom out the picture.
- " ◀ " : move the pictures towards left. While being zoom-in, this key can be used to move the picture upwards.
- "▶" : move the pictures towards right. While being zoom -in, this key can be used to move the picture downwards.
- " ● " : when zooming in the picture, select and confirm the shooting key, and use the , " ◀ " and " ▶ " to move the picture vertically / horizontally.
- " M " : press this key to exit picture view model.

During the picture and file browsing operation process, the function keys that can be pressed are as follows:




For picture zooming in operation, 8x is the highest option offered

d. Settings for protection / deletion / automatic display / DPOF of photos:

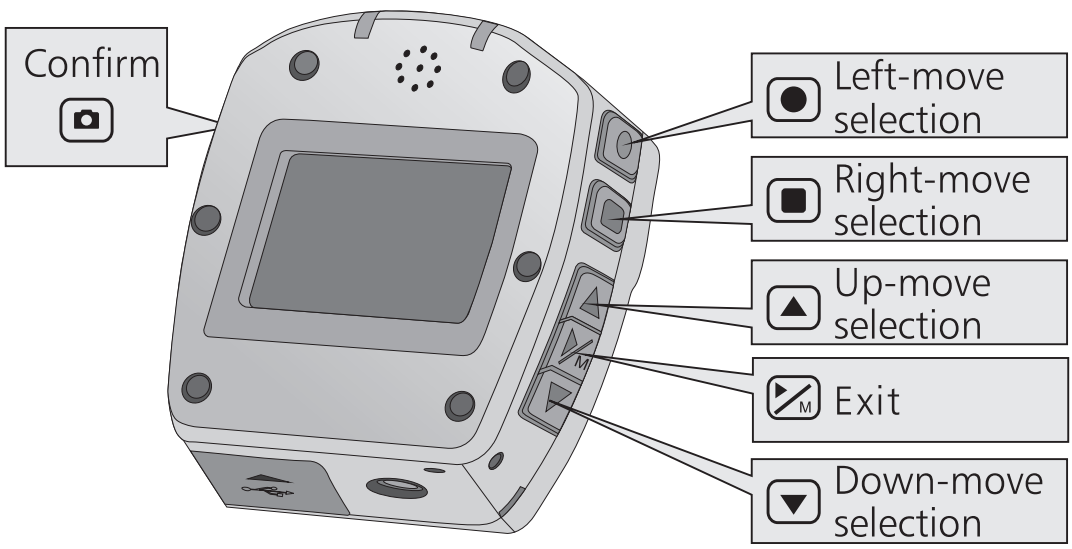
Gently press " " key to enter "replay selection" interface, press " " or " " key to select the photo file, and press " " to enter photo preview interface. Press " " and hold for 3 seconds to enter photo protection /deletion / automatic display / DPOF setting interface.

In this interface, five options are available which are respectively:

single deletion / delete all / protection / automatic display / DPOF.

- Single deletion: to delete a single picture ( press " " twice and the "Yes' or "No" options will pop up. Select "Yes" to deleten it).
- Delete all: deletes all pictures that haven't been protected.
- Protection: after selecting the protection function, the file can be locked for protection. The protected files will have a " " icon on the top left hand side of the file. When you execute the protection operation for a protected file, it becomes unprotected. The protected file can not be deleted unless through formatting.
- Automatic display: displays the pictures in the file folder with 5s interval automatically.
- DPOF: when browsing pictures, press " " and hold key for 3 seconds to enter the menu setting. Select "DPOF" function and a " " icon will appear on the top left hand corner of the picture, which indicates that this picture is performed with DPOF setting.

During file deletion / protection operation process, the function keys that can be pressed are as follows:



About DPOF

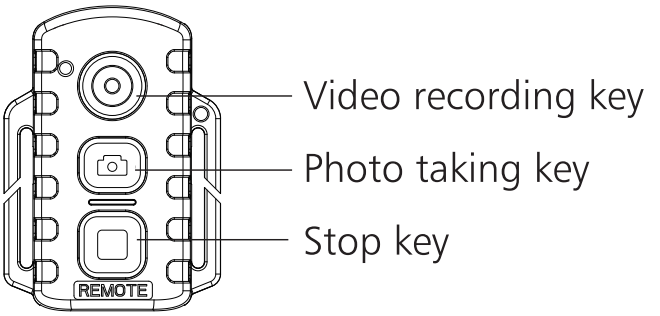
DPOF ( digital printing order format ) is a printing order standard issued by the record to the memory card. It is used for digital camera pictures. Users can assign the photos and quantity that is about to be printed. Using the compatible DPOF digital camera, the following operations can be performed: Insert the memory card into a printer compatible with DPOF to output photos according to the order; Use a printer that is compatible for printing photos directly from camera according to DPOF orders.

Notes:

1. When using DPOF printing, the memory card which is configured with DPOF information must be adopted. DPOF printing can't be performed by only selecting photos from memory card.
2. Some DPOF compatible printers or digital printing shops may not able to print photos according to the assigned settings. If you encounter such problems, please refer to the printer operating manual. Or check the DPOF compatibility with the digital photo printing shop.
3. Please don't insert memory cards that are configured for use with other cameras into this machine for DPOF setting. It may fail to function properly due to improper settings. Besides, depending on the image type, the DPOF may not get configured.

6. Using the remote controller

The HD77 is equipped with a remote controller which can capture videos and photos and stop the operation as well. Press the relevant key, the red indicating light on the remote controller will flash once for prompt. For specific key functions, please see the following illustration:




In order to ensure that the function keys of the remote controller correspond with the HD77, before using the remote controller, the code synchronizing operating must be performed in advance according to the following steps.

Press the photo taking key of the HD77 when it is shutdown, and press and hold the on / off switch for 3 seconds till the “beep” sound prompts the success of the start-up. Release the key and press the video taking key and stop key on the remote controller within 3 seconds to complete synchronizing the code.

Notes:

a. In order to verify whether the code synchronization is successful or not, a wireless remote controller can be used to control the HD77 device. The control functions include: start / stop video recording, and photo capture function, activating the machine at standby state. HD77 beeps every time a code representing successful operation has been set; for video recording stop operation, the machine will beep twice as a prompt.
b. Distance requirement for remote control: the remote control can be effective in any angle within a 6m block -less space in horizontal operating direction.
c. Under standby state, pressing the video recording, photo capturing, or stop key can all activate the system.

7. Standby model

Under the main machine pre-view state, if no operation or task is being performed, and the machine reaches standby time, the system will automatically enter standby power conservation state. During this state, pressing any function key except the on / off switch key, or any key on the remote controller can activate the system.

8. Connecting AV output

In the preview state, the USB-AV connecting lines can be used to connect HD77 with a display device. After the display device is connected, all operating functions of the machine are available.

Note：

After connecting audio and video display devices, the TFT LCD and the sound on the machine will be turned off ; the audio and video will be reflected on the display devices.

9. Connecting HDMI output

In the preview state, HDMI tie-line can be used to connect HD77 onto a HD display device to finish the functional operation of this machine.However, in the case of 720P*30f/ 720P*60f/ 960P/1080P, the function – digital zoom is not allowed.

Notes:

a. After connecting to the HDMI display device, the TFT LCD and sound on this machine will be turned off. Audio and video will be reflected on display devices;
b. When connecting HDMI, improper HDMI insertion may cause abnormal functioning in the machine; it can be recovered after a re-start;
c. When connecting to HDMI, there is a slight difference between HDMI and TFT LCD screens.

10. Connecting USB mode

a. In the startup state, data stored in the memory and memory card of this machine can be read after decryption, when it is connected with the computer via USB connecting line.

b. When connecting the USB, improper insertion may cause abnormal functioning in the machine; it can be recovered after a re-start.

Notes:

1. When USB connecting line is connected to computer, display screen of host machine will be turned off.
2. Upon connecting USB when the status of night viewing light is on, the night viewing light is forced to be turned off. Quitting the USB state can turn it on again.

11. Operating sound reminder

a. During the process of normal use, this machine will generate a “tick” every time the video key is pressed. When the photo key is pressed once a “click” sound is generated to indicate that the operation is effective.

b. When the video is stopped, the machine will generate two “ticks” as an indication or reminder.

c. During the course of shooting the video, the machine offers no indications of when the photo key should be pressed.

d. The on-off reminder sound in the machine can be set by “reminder sound” in the menu settings. However, it cannot turn off the host machine's photo / video / Audio recording reminder sounds.

e. When the system is in the video process, it will generate two “ticks” to indicate when to press the stop key on the remote control unit, as a reminder to stop the video.

12. On-off TFT display screen

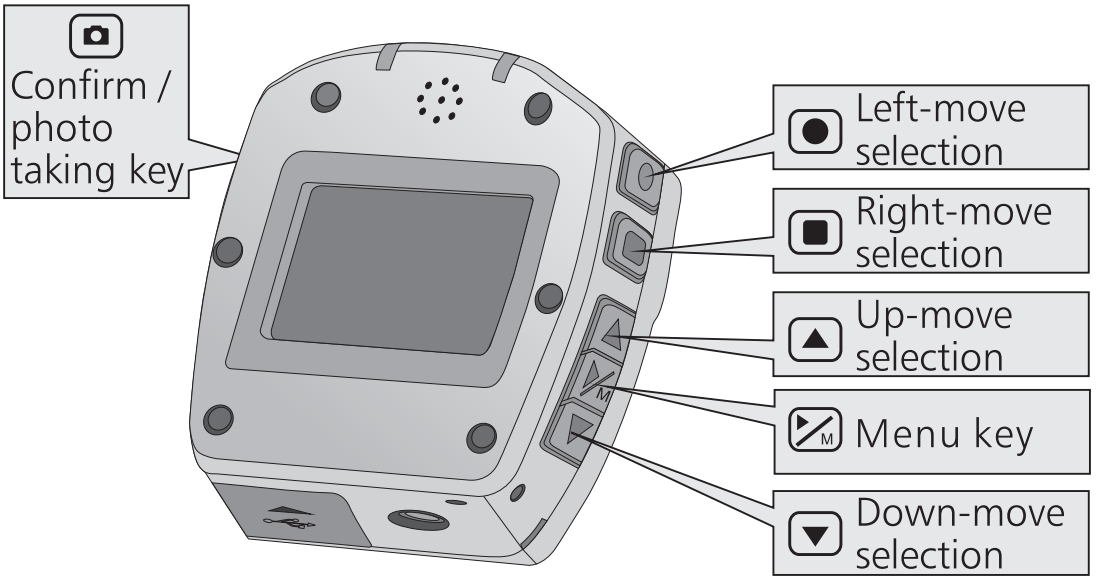
a. When starting the machine and irrespective of the state, a long press of the record key " " for about three seconds, can start/close TFT display screen.

b. remote controller unit does not offer the options to switch the TFT screen on or off.

# Product Parameter Setting and Operating

In the start preview state, pressing " M " key for three seconds will open the menu, pressing " ● " or " ■ " will initiate the left-right option of the menu operation, pressing " ▲ " or " ▼ " will conduct the up-down option menu operation, after choosing the menu, pressing " 📷 " will enter the option items of the menu, press " ● " or " ■ " again leads to the setting options, pressing " 📷 " again ensures that the machine will quit the menu and save the same relevant settings at the same time. Press " M " to return to the standby preview interface.

When entering into the menu interface to set the parameters, pressing keys for different functions are shown in the picture as follows:




1. Parameter setting for video camera

a. video image resolution ratio1080P, 960P,720/60, 720/30,and WVGA can be chosen as image resolution ratio of video

b. bit rate: Sampling rate that from environment screen to digital signal when on video.
Options provided by every video mode: 1080P (12M/6M) / 960P (8M/4M) / 720P (8M/4M) / WVGA (8M/4M).

(Bigger bit rate offers clearer quality of screen while enlarging file size at the same time).

2. Parameter setting for camera
a. Single-shot mode: when starting every time, the machine will automatically set photo mode to single-shot mode; press " 📷 "once to take a photo.
b. Successive Triple-shot mode: press " 📷 " to successively take three photos.
c. Successive shooting mode: with intervals of x / 2s / 3s / 5s /10s / 20s / 30s to take a photo. Press" 📷 "key until it is cancelled, or SD card is full or the battery power is low.
d. Self-timer mode: the self-timer count-down time can be chosen (0s, 5s,10s); after choosing the time, press " 🎞M " to return to preview state; press " 📷 " once for the system to begin a count-down, and photo will be captured when the set time is over; after the self-timer action is completed, the system will automatically switch the photo mode to single-shot mode; if "self-timer timing" has been set but without pressing " 📷 " to restart the machine, the machine will automatically set "self-timer mode timing" to 0s status.
e. Image resolution ratio: 3M / 5M / 8M can as chosen as necessary photo resolution ratio.
3. Parameter setting for system:
a. Reminder sound: for the on-off reminder, the "Di～" sound can be chosen.

Note:
The photo / video and audio recording sound cannot pass this closure, This closure is just to close the sound of the key press, and no photo / video and audio recording sound in the machine can close the setting.

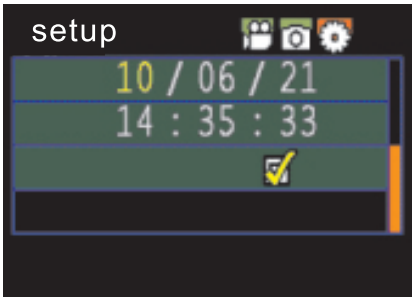
b. Self Lamp: Turn on or turn off the self-timer indicator;(default setting is "ON")
c. Time display: use the preset options. while shooting the video, the machine will automatically record date and time of the shooting and display them on the right hand side of the file.
d. Loop Record: when setting “Loop Record”, the video file will be automatically saved every fifteen minutes; when not setting to “cycle coverage”, the video file will be automatically saved every thirty minutes.

Note:
Actual current section files are subject to set file size rather than true time. In other words, when light gets low, it is sectioned for more than fifteen minutes / thirty minutes.

e. Automatic standby: none, 2min, 5min and 10min can be chosen as automatic standby time. After choosing, if any mission and operation is not performed, the system will automatically start a count-down. when set time is over, HD77 closes input and output and enters into standby status. During the course of timing if any operation occurs, the system will automatically begin a count-down. In standby mode, besides power key ,the other key or the keys in remote controller all could wake up the system. When factory resetting is chosen, default standby is off.

f. TV output format: NTSC (light source frequency 60Hz), PAL (light source frequency 50Hz); video format output to TV can be chosen, and if selected format has been changed, AV tie-lines need to be extracted and inserted again so that parameters can be changed.
g. Formatting: after ensuring to keep all unnecessary recorded and shot files, formatting can be chosen to move and delete files.
h. Default / Recover Factory setting: this operation can recover all original factory settings of the machine. After factory resetting, the system will uniformly set display way of sub-"menu" to English stauts; press " M " long for three seconds to enter into setting menu option, press " ● " or " ■ " to enter into "Setup" menu, press " ▼ " to choose "Language" item. After performing a factory resetting, the system uniformly sets time to " 12/01/01 00:00:00".
i. Language: use " ● " or " ■ " to choose your desired language.
j. Date/Time: to adjust and modify time, the time can be chosen to overlap onto bottom right corner of video file or photo files when on video and photo.

Setting date/time:
In the start preview state, press " M " long for three seconds to enter into menu interface, press " ● " or " ■ " to switch to " ⚙ " setting interface, press " ▼ " or " ▲ " to "Date/Time" menu, and then press " 📷 " to enter into "Date/Time" setting panel.
If the font is yellow, it indicates that the cursor is on the date or time, press " ● " or " ■ " to move cursor for choice of date or time, press " 📷 " for confirmation and font turns



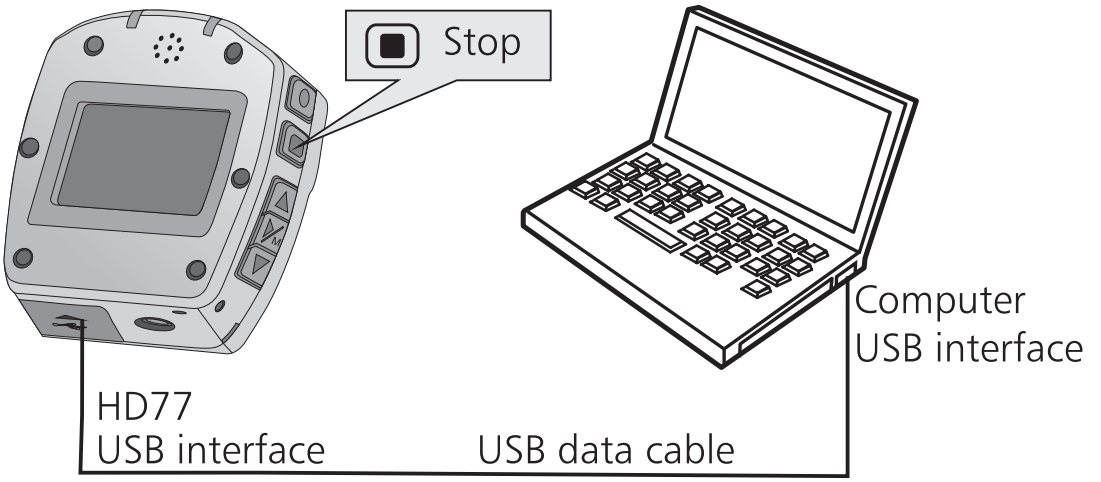

red, later on press " ▲ " or " ▼ " to change date or time values, press " 📷 " to finish modification; finally use direction to move the cursor on symbol " ☑ " and press " 📷 " to ensure date or time modification.

Note: under sub-"menu", press " M " to finish returning function.

k. G sensor: Car black box can be chosen to start or close. When there is change to acceleration, it will automatically move to video. press the stop key to stop video and save video file.

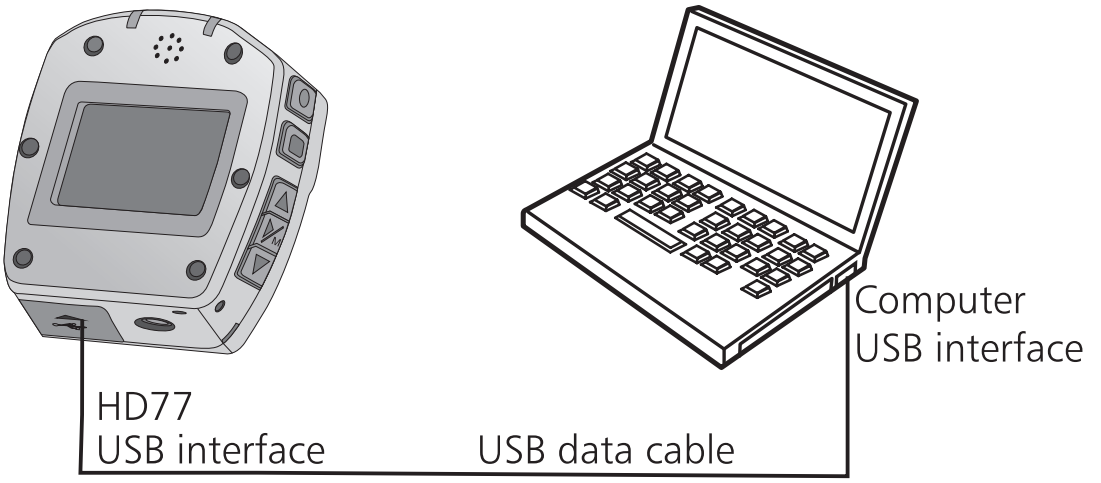
# PC Camera function

The products could be used as PC camera,please kindly install the software in CD.
When HD77 connect PC in turn on status,and long press " ■ " ,until it shows" "icon can start and enter into PC Camera function. It can be regarded as a video communication tool.



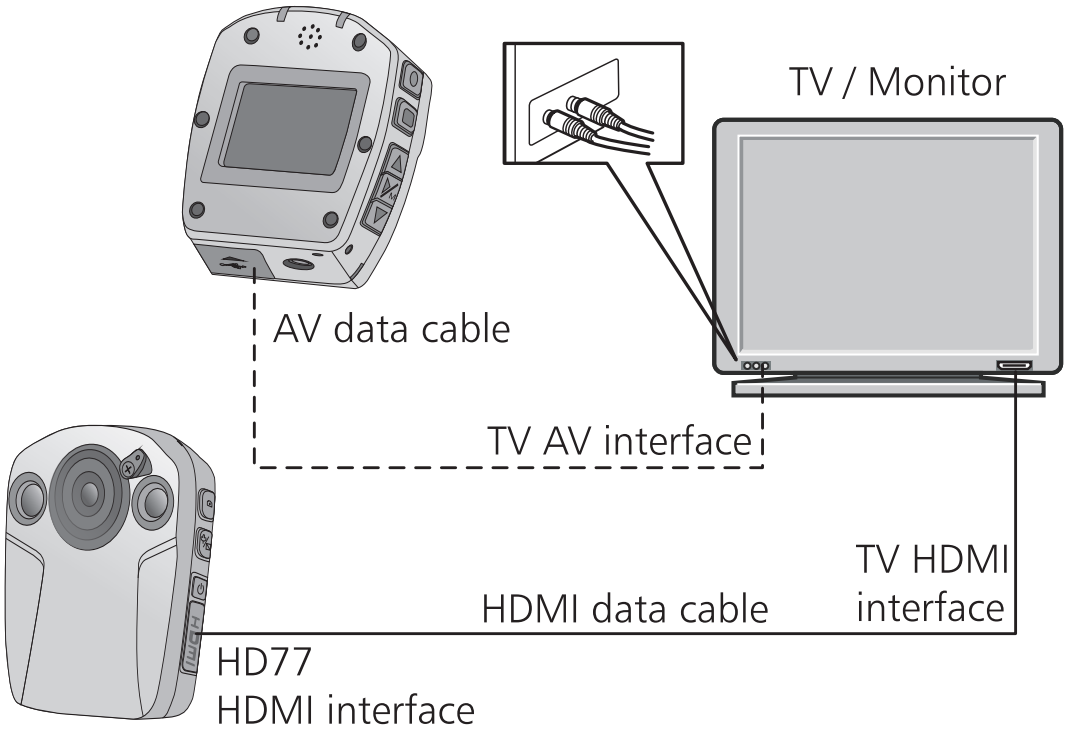
# File Saving and Playing

1. After finishing video, use the USB data cable to enter into U-disk mode as per procedures of HD77 data operation. After copying or cutting recorded files in the computer, Media Player, KM Player, etc. are the recommended software to conduct playing.




Note: before extracting and inserting USB data cable, please turn off HD77 power supply.

2. Recorded files can be connected to TV or monitor with corresponding interfaces for playing via HDMI HD data cable or AV line.




Notes:

1. After using HDMI data cable to connect with computer, input source of monitor needs to be chosen, and then HD77 can be connected to the monitor for viewing.
2. When using AV lines for connection, corresponding color terminals of AV lines should be connected to corresponding color terminals of TV or monitor. When connecting TV or monitor, it needs to be ensured that grounding of TV or monitor should be sound.
3. Please adjust all the monitor parameters so that viewing effect is in best condition.

# Power supply

Power supply applied by this product has passed authoritative certificate.

US Supply Power Certificate

Australian Supply Power Certificate

CE Mark
EU Power Supply Certificate

GS Mark
German Power Supply Certificate

CCC Mark
CN Power Supply Certificate

PSE Mark
Japanese Power Supply Certificate

BS Mark
UK Power Supply Certificate

Note:
During the course of using the product, the surface temperature will increase and it is an normal phenomenon.

# Packed Accessories

Host machine

Remote control unit

Back clip of host machine

Shoulder clip of host machine

Tray

car suction mount cup

Power adapter

Car charge

AV output cable

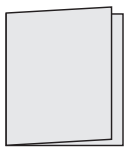
USB cable

Hand rope

Bag

CD

manual



Notes:

1. There will be slight differences between picture and the actual object. If there is any change in packing, notice regarding it will not be sent again and we are sorry for the inconvenience it may cause.
2. Based on different components of selected product, parts may be increased or decreased. Please refer to object for accuracy.

# Specification Parameters

| | |
|---|---|
| Pixel | 5 million Color CMOS |
| Visual angle | 170° |
| Battery capacity | 1000mAH polymer Lithium battery (can be used repeatedly) |
| Consumed current | 590mA / 3.7V(max) |
| Using time of battery | 2.5-hour successive video shooting |
| Standby time | About 120 hours |
| Charging time | About 3 hours |
| File storage | Normal situation, 30min/section; repeated situation, 15min/section |
| Distance of remote control | 6m(max) |
| Storage capacity | 32GB (max) |
| Storage temperature | -20°C - 60°C |
| Temperature of working environment | -10°C - 50°C |
| Humidity of working environment | 15-85% RH |
| Video format | MOV |
| Photo format | JPEG |
| Recording format | WAV |
| Video format | 1080P(1920*1080) / 960P (1280*960) 720P(1280*720) / WVGA (848*480) |
| USB specification | USB 2.0 |
| Operating platform | Windows XP / Vista / Win7 |
| Body weight of machine | 100g |
| External appearance size | 71mm ×58mm×30mm |

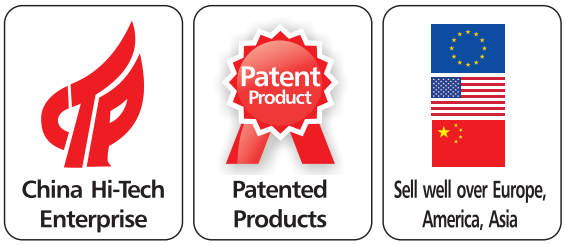
Note:
Specification parameters may be changed due to upgrading, changing, etc.

## Using Suggestion For 3M Double-side Sponge Gelatin:

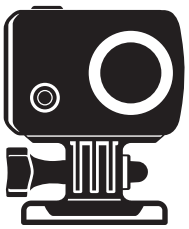
1. Before fixing parts of 3M double-side sponge gelatin, please choose relatively proper curved surface or plane, to make sure 3M double-side sponge gelatin matches with fixed curved surface or plane.
2. Before using 3M sponge gelatin, please clean the fixed surface that needs to be glued.
3. Before gluing 3M sponge gelatin, it is suggested that surface of 3M sponge gelatin is warmed properly ( hair dryer is a good option ), especially in the condition of lower temperature ( lower than 20°C ).

## Warm Tips

1. When using successively, it is normal that the temperature of the machine rises.
2. If this machine will not be used for a long time, it is suggested to charge the battery every six months, in order to maintain the battery performance.
3. During the course of video, using digital zoom can slightly influence the quality of the image.
4. There is a slight difference in video visual angles in different modes.
5. When capacity of video file is larger, it is suggested to use computer or other professional display devices, in order to ensure proper displaying.
6. Cyclic recording and frequent recording/deleting operations may leave data fragments in the SD card, causing failure to record or save files. To solve this problem, just backup the data to an external storage and format the SD card.




Please read this user manual carefully and thoroughly before any attempt to install and operate this product and re-tain it for your future reference.



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